REMARKS / ARGUMENTS

The present application includes pending claims 1-42, all of which have been rejected. The Applicant respectfully submits that the claims define patentable subject matter.

Claims 1-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,521,910, issued to Matthews (hereinafter, Matthews), in view of U.S. Patent Application Publication No. 2002/0131363, issued to Beshai, et al. (hereinafter, Beshai). Claims 41-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,085,306, issued to Voldman, et al. (hereinafter, Voldman), in view of Beshai. The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and at least based on the following remarks.

I.   **Examiner's Response to Arguments**

The Examiner states the following in the Office Action:

Matthews discloses aggregating (accumulates, col. 19, line 18-19) messages (values, col. 19, line 18) from a physical layer (611-Fig. 22. Note that Fig. 22 is an illustration of a port object for the switch of FIG. 21, and FIG. 21 is an illustration of the software embodiment of the invention) of each communication band (col. 1, line 15. Note that col. 1 is the field of the invention. It describes that the invention is directed to allocating bandwidth by multiple level of arbitration that means multi-band) and each communication channel (all nodes, col. 19, line 19) associated with each of a plurality of protocols (col. 1, lines 13-14. Note that col. 1 is the field

of the invention. It describes that the invention is protocol
independent that means multi-protocol) in a single multiprotocol
layer of the multi-band, multi-protocol network (Figs. 11A-C, and
col. 6, lines 56-57).

See the Office Action at page 8. It seems that the Examiner has performed
individual word searches throughout the specification without showing any support
for the specific claim limitations recited by the Applicant. For example, the
Examiner equates "aggregating" with "accumulating" and is citing to col. 19, lines
18-19 of Matthews. At col. 19, lines 18-19, Matthews discloses a best path
determination method for the SCS switch agent 78 using accumulation of path
values a, ..., n. In fact, path values are also equated to value vectors that are
used for finding an optimal path in a mesh of network nodes. The Applicant points
out that the relevant claim limitation is "aggregating **messages from a physical
layer.**" **Therefore, even if we assume that the accumulation of Matthews is
the same as aggregation, the Examiner's argument is still deficient since the
path values a, ..., n are obviously not physical layer (PHY) messages**.

With regard to Examiner's statement that "the invention is directed to
allocating bandwidth by multiple level of arbitration that means multi-band," the
Applicant points out that Matthews uses multiple levels of arbitration only to
allocate **the** bandwidth, i.e., **the available bandwidth** disclosed by Matthews.
There is no disclosure that, in fact, Matthews utilizes a multi-band network. On the

contrary, Matthews discloses the use of bandwidth-limited shared resources. *See* Matthews, col. 1, lines 15-20.

With regard to "multi-protocol", the Applicant points out that Matthews, at col. 1, lines 13-14, states "establishing **temporary connections which are protocol-independent** and transparent." In other words, the temporary connections are protocol-independent, i.e., they can function under different protocols. This, however, does not mean that the network of Matthews is a multi-protocol network. Therefore, the Applicant maintains the arguments stated in the September 25, 2007 response.

The Examiner states the following in the Office Action:

Applicant argues that Voldman et al. do not teach the limitation of "a multiprotocol layer above, and interfacing with said MAC layer" as recited by the applicant in claim 41. In response, the Examiner respectfully disagrees. In col. 9, lines 8-11, Voldman et al. state that "The MAC layer 44 may use a protocol described in IEEE 802. However, other MAC layer protocols could also be used, such MCNS MAC layer protocol, for instance". It is clear that Voldman et al. teach a multi-protocol layer.

See the Office Action at page 8. The Applicant points out that col. 9, lines 8-11 of Voldman relate to the MAC layer. However, the relevant claim limitation is "multiprotocol layer **above** ... **said MAC layer**." Voldman clearly does not satisfy this limitation. Therefore, the Applicant maintains the arguments stated in the September 25, 2007 response.

REJECTION UNDER 35 U.S.C. § 103

In order for a *prima facie* case of obviousness to be established, the Manual

of Patent Examining Procedure ("MPEP") states the following:

> First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the teaching. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

See MPEP at § 2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir.

1991) (emphasis added). Further, MPEP § 2143.01 states that "the mere fact that

references can be combined or modified does not render the resultant combination

obvious unless the prior art suggests the desirability of the combination," and that

"although a prior art device 'may be capable of being modified to run the way the

apparatus is claimed, there must be *a suggestion or motivation in the reference* to

do so'" (citing In re Mills, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990)).

Moreover, MPEP § 2143.01 also states that the level of ordinary skill in the art

cannot be relied upon to provide the suggestion...," citing Al-Site Corp. v. VSI Int'l

Inc., 174 F.3d 1308, 50 USPQ 2d 1161 (Fed. Cir. 1999). Additionally, if a *prima*

facie case of obviousness is not established, the Applicant is under no obligation

to submit evidence of nonobviousness.

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

See MPEP at § 2142.

II.   The Proposed Combination of Matthews and Beshai Does Not Render Claims 1-40 Unpatentable

The Applicant first turns to the rejection of claims 1-40 as being unpatentable over Matthews in view of Beshai.

A.   Independent Claim 1

With regard to the rejection of independent claim 1 under 103(a), the Applicant submits that the combination of Matthews and Beshai does not disclose or suggest at least the limitation of "aggregating messages from a physical layer of each communication band and each communication channel associated with each of a plurality of protocols in a single multi-protocol layer of the multi-band, multi-protocol network," as recited by the Applicant in independent claim 1.

The Office Action states the following:

For claim 1, Matthews substantially teaches a method (Title) for providing enhanced connectivity (best path, Title) in a multi-band, multi-protocol (col. 16, lines 28-29) network, the method comprising:

aggregating (accumulates, col. 19, line 18-19) *messages* (values, col. 19, line 18) *from a physical layer* (611-Fig. 22. Note that Fig. 22 is an illustration of a port object for the switch of Fig. 21, and Fig. 21 is an illustration of the software 'embodiment-of the invention) *of*

>   *each communication band* (col. 5, lines 59-61) *and each*
>   *communication channel* (all nodes, col. 19, line 19) *associated with*
>   *each of a plurality of protocols* (col. 16, lines 28-29) *in a single*
>   *multi-protocol layer of the multi-band, multi-protocol network* (Figs.
>   11A-C, and col. 6, lines 56-57);

See the Office Action at page 2. The Examiner equates "aggregating" with "accumulating" and is citing to col. 19, lines 18-19 of Matthews. At col. 19, lines 18-19, Matthews discloses a best path determination method for the SCS switch agent 78 using accumulation of path values a, ..., n. In fact, path values are also equated to value vectors that are used for finding an optimal path in a mesh of network nodes. **The Applicant points out that the relevant claim limitation is "aggregating messages from a physical layer." Therefore, even if we assume that the accumulation of Matthews is the same as aggregation, the Examiner's argument is still deficient since the path values a, ..., n are obviously not physical layer (PHY) messages**.

With regard to "multi-protocol", the Applicant points out that Matthews, at col. 1, lines 13-14, states "establishing temporary connections which are protocol-independent and transparent." In other words, **the temporary connections are protocol-independent, i.e., they can function under different protocols. This, however, does not mean that the network of Matthews is a multi-protocol network.** The Applicant is also confused as to why the Examiner is referring for support to FIGS. 11A-C, since these figures illustrate best path determination and

they do not illustrate a multi-protocol and multi-band network, or aggregating messages into a single multi-protocol layer, as recited in Applicant's claim 1.

Beshai does not overcome the deficiencies of Matthews. Therefore, the Applicant maintains that the combination of Matthews and Beshai does not disclose or suggest at least the limitation of "aggregating messages from a physical layer of each communication band and each communication channel associated with each of a plurality of protocols in a single multi-protocol layer of the multi-band, multi-protocol network," as recited by the Applicant in independent claim 1.

Accordingly, the proposed combination of Matthews and Beshai does not render independent claim 1 unpatentable, and a *prima facie* case of obviousness has not been established. The Applicant submits that claim 1 is allowable. Independent claims 11, 21, and 31 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claims 11, 21, and 31 are also allowable over the references cited in the Office Action at least for the reasons stated above with regard to claim 1.

B.   Rejection of Dependent Claims 2-10, 12-20, 22-30, and 32-40

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 11, 21, and 31 under 35 U.S.C. § 103(a) as being

unpatentable over Matthews in view of Beshai has been overcome and requests that the rejection be withdrawn. Additionally, claims 2-10, 12-20, 22-30, and 32-40 depend from independent claims 1, 11, 21, and 31, respectively, and are, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 2-10, 12-20, 22-30, and 32-40.

III. The Proposed Combination of Voldman and Beshai Does Not Render Claims 41-42 Unpatentable

The Applicant now turns to the rejection of claims 41-42 as being unpatentable over Voldman in view of Beshai.

A. Independent Claim 41

With regard to the rejection of independent claim 41 under 103(a), the Applicant submits that the combination of Voldman and Beshai does not disclose or suggest at least the limitation of "a multi-protocol layer above, and interfacing with, said MAC layer," as recited by the Applicant in independent claim 41.

The Office Action states the following:

For claim 41, Voldman et al. substantially teach a system for providing enhanced connectivity in a multi-band, multi-protocol network, the system comprising:

a physical layer (38-Fig. 2);

> a MAC layer above (44-Fig. 2) and interfacing with said physical layer (Fig. 2); and
>
> multi-protocol layer above (security 46, and PPP 50 -Fig. 2) and interfacing with said MAC layer (Fig. 2, and col. 9, lines 8-16).
>
> However, Voldman et al. fail to specifically teach a multi-band network for this application.
>
> Beshai et al. teach a multi-band network ([0051], lines 9-12).
>
> Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Voldman et al. with Beshai et al. to obtain the invention as specified, for more flexible network applications.

See the Office Action at page 6. The Applicant respectfully disagrees with the above argument. Initially, the Applicant points out that neither Voldman nor Beshai are related, or disclose or suggest, a multi-protocol network.

The Examiner further relies on Figure 2 of Voldman. Figure 2 of Voldman discloses a conventional protocol stack for a data-over-cable system. The Examiner has equated the Applicant's "multi-protocol layer" limitation with the PPP layer 50 of Voldman. The Applicant respectfully disagrees. **The PPP layer 50 is in fact a point-to-point ("PPP") layer 50, and it is not a multi-protocol layer. Furthermore, the PPP layer 50 is above the telephone interface 48 (as clearly disclosed in col. 9, line 15 and Figure 2 of Voldman), and it is not above the MAC layer, as erroneously stated by the Examiner. In fact, as seen from Figure 2 of Voldman, <u>the PPP layer 50 and the MAC layer 44 are within the</u>**

same data link layer 42. Beshai does not overcome the above deficiencies of Voldman.

Therefore, the Applicant maintains that the combination of Voldman and Beshai does not disclose or suggest at least the limitation of "a multi-protocol layer above, and interfacing with, said MAC layer," as recited by the Applicant in independent claim 41.

Accordingly, the proposed combination of Voldman and Beshai does not render independent claim 41 unpatentable, and a *prima facie* case of obviousness has not been established. The Applicant submits that claim 41 is allowable.

    B.   Rejection of Dependent Claim 42

Based on at least the foregoing, the Applicant believes the rejection of independent claim 41 under 35 U.S.C. § 103(a) as being unpatentable over Voldman in view of Beshai has been overcome and requests that the rejection be withdrawn. Additionally, claim 42 depends from independent claim 41, and is, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claim 42.

CONCLUSION

Based on at least the foregoing, the Applicant believes that all claims 1-42 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and requests that the Examiner telephone the undersigned Attorney at (312) 775-8176.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

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